Technics

Stereo Integrated Amplifier

SU-V85A

OPERATING INSTRUCTIONS

Before operating this unit, please read these instructions completely.

Dear Stereo Fan

We want to thank you for selecting this product and to welcome you to the growing family of satisfied Technics product owners around the world.
We feel certain you will get maximum enjoyment from this new addition to your home.
Please read these operating instructions carefully, and be sure to keep them handy for convenient reference.

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Technical Specifications

(IHF '78)

■ AMPLIFIER SECTION

Rated minimum sine wave RMS power output
20 Hz~20 kHz both channels driven
0.003% total harmonic distortion
120W per channel (8 ohms)

1 kHz continuous power output both channels driven 0.003% total harmonic distortion	130W per channel (8 ohms)
Total harmonic distortion	
rated power at 20 Hz~20 kHz	0.003% (8 ohms)
rated power at 1 kHz	0.003% (8 ohms)
half power at 20 Hz~20 kHz	0.002% (8 ohms)
half power at 1 kHz	0.0007% (8 ohms)
Intermodulation distortion	
rated power at 250 Hz: 8 kHz=4:1, 8Ω	0.005%
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.005%
Power bandwidth both channels driven, −3 dB	5 Hz~60 kHz (8Ω, THD 0.02%)
Residual hum and noise	0.8 mV
Damping factor	30 (4Ω), 60 (8Ω)
Input sensitivity and impedance	
PHONO MM	0.25 mV (2.5 mV. IHF' 66)/47kΩ
MC	17 μV (170 μV. IHF' 66)/220kΩ
TUNER, CD, AUX 1, AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	15 mV (150 mV. IHF' 66)/18kΩ
PHONO maximum input voltage (1 kHz, RMS)	
MM	150 mV
MC	10 mV
S/N (IHF, A)	
PHONO MM	77 dB (88 dB, IHF, A)
MC	75 dB (72 dB, IHF, A)
TUNER, CD, AUX 1, AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	82 dB (106 dB, IHF, A)
Frequency response	
PHONO	RIAA standard curve ±0.2 dB (20 Hz~20 kHz)
TUNER, CD, AUX 1, AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	0.8 Hz~150 kHz (−3 dB) +0, −0.1 dB (20 Hz~20 kHz)
Tone controls	
BASS	50 Hz, +10 dB~−10 dB
TREBLE	20 kHz, +10 dB~−10 dB
Subsonic filter	20 Hz, −6 dB/oct.
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Muting	−20 dB
Output voltage and impedance	
TAPE, 1, 2, 3 REC OUT	150 mV
Channel balance, AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, AUX 1 kHz	55 dB
Headphones output level and impedance	700 mV/330Ω
Load impedance	
MAIN or REMOTE	6Ω~16Ω
MAIN and REMOTE	12Ω~16Ω

■ GENERAL

Power consumption	750W
Power supply	AC 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensions (W×H×D)	430 × 158 × 393 mm (16-15/16" × 6-7/32" × 15-15/32")
Weight	11.7 kg (25.74 lb.)

Notes:
1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Suggestions for Safety

■Use a standard electrical AC wall outlet

1. **Use from an AC power source of high voltage, such as for air conditioners, is very dangerous.**
   Be extremely careful not to make a connection to the electrical outlet for a large air conditioner or central-heating unit which uses high voltage, because there is the possibility of fire.
2. **A DC power source cannot be used.**
   Be sure to check the power source carefully, especially on a ship or other place where DC is used.

■Connection and removal of the power cord plug

1. **Wet hands are dangerous.**
   A dangerous electric shock may result if the plug is touched by wet hands.
2. **Don't pull the power cord.**
   Always grasp the plug; never pull the cord itself.

■AC outlets on rear panel

1. **Any equipment connected here should have specified power consumption or less.**
   These outlets are exclusively for the connection of other audio equipment, such as a tape deck. Be sure the power consumption does not exceed the wattage specified near the AC outlets.
2. **Never connect other electrical appliances, such as an iron or toaster.**
   If appliances with a large power consumption are connected, an unexpected accident might occur as a result of overheating.

■Never attempt to repair or reconstruct this unit

A serious electric shock might occur if this unit is repaired, disassembled or reconstructed by unauthorized persons, or if the internal parts are accidently touched.

■For families with children

Never permit children to put anything, especially metal, inside this unit. A serious electric shock or malfunction could occur if articles such as coins, needles, screwdrivers, etc. are inserted through the ventilation holes, etc. of this unit.

■Turn off after use

If the unit is left for a long time with the power on, this will not only shorten its useful operation life, but may also cause other unexpected trouble.

■If water is spilled on the unit

Be extremely careful if water is spilled on the unit, because a fire or serious electric shock might occur. Immediately disconnect the power cord plug, and consult with your dealer.

■Place the unit where it will be well ventilated, and away from direct sunlight

Place this unit at least 10 cm (4") away from wall surfaces, etc., and away from direct sunlight. Be careful that curtains and similar materials do not obstruct the ventilation holes.

■Keep the unit away from heaters, etc.

Heat can damage the external surfaces as well as internal circuits and components.

■Avoid spray-type insecticides

Insecticides might cause cracks or "cloudiness" in the cabinet and plastic parts of this unit. The gas used in such sprays might, moreover, be ignited suddenly.

■Never use alcohol or paint thinner

These and similar chemicals should never be used, because they may damage the finish.

■If trouble occurs

If, during operation, the sound is interrupted or indicators no longer illuminate, or if abnormal odor or smoke is detected, immediately disconnect the power cord plug, and contact your dealer or an Authorized Service Center.

Before Use

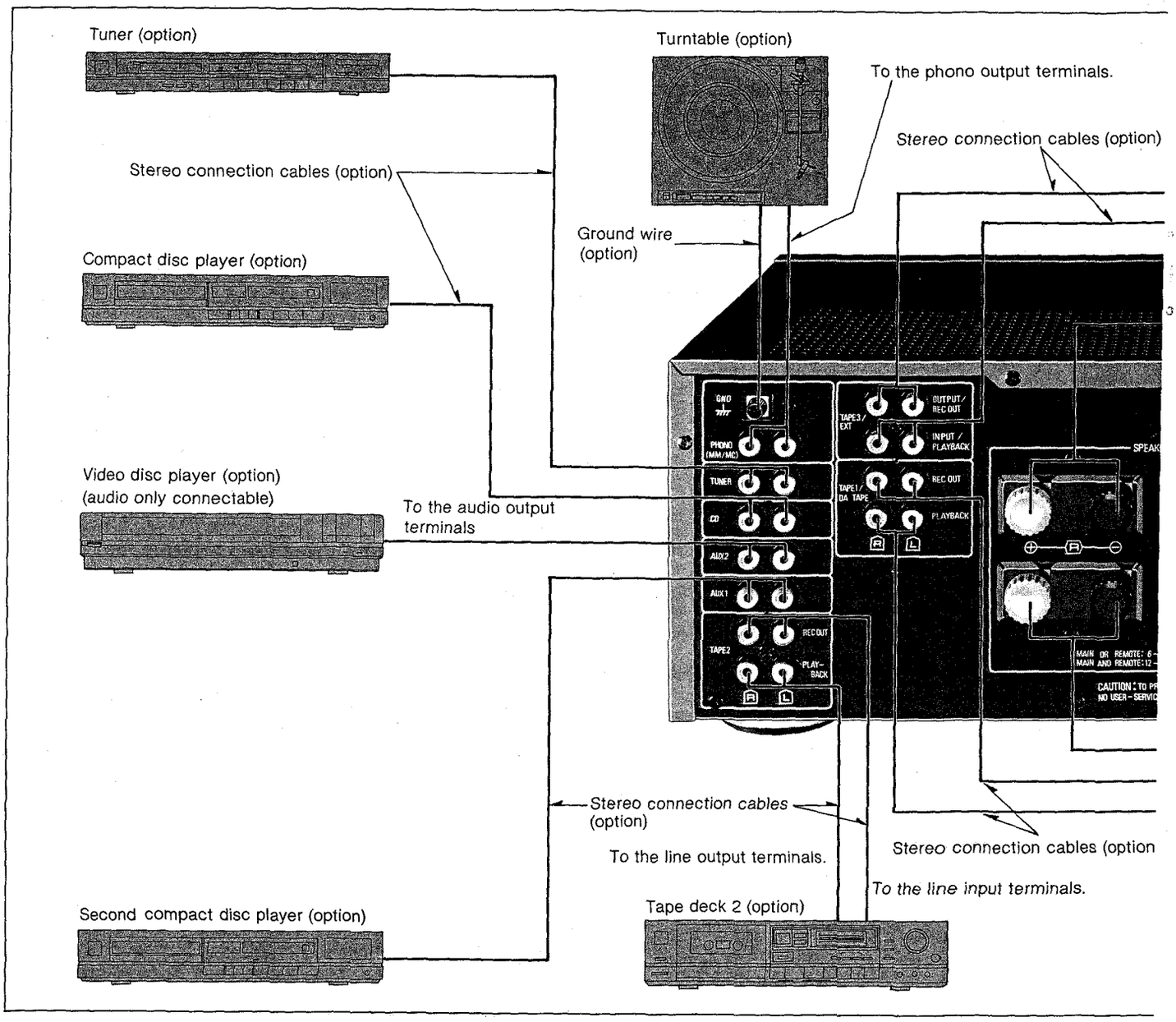
Be sure to disconnect the mains cord before adjusting the voltage selector.
Use a minus (−) screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the unit will be used.
(If the power supply in your area is 117 V or 120 V, set to the "127 V" position.)
Note that this unit will be seriously damaged if this setting is not made correctly.

CAUTION:

This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications set forth in Subpart J of Part 15 of the FCC Rules. If this equipment does cause interference to radio or television reception which can be determined by turning the equipment on and off, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver.

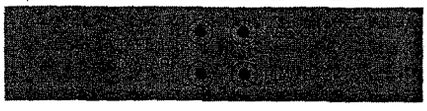
Connections

- When making connections, check to be sure that the left and right connections and the (+) and (−) connections are all correct. (Refer to the operating instructions for the optional equipment used.)



"TAPE 1/DA TAPE" terminals

In addition to a tape deck, the audio from a digital audio processor or video cassette recorder (audio only) can be connected here. If such equipment is connected, connect the tape deck to the "TAPE 2" terminals.

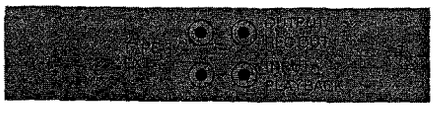


"TAPE 2" terminals

Connect a second audio tape deck.

"TAPE 3/EXT" terminals

Connect a third audio tape deck or a graphic equalizer, etc.



"AUX 1" terminals

Use these terminals to connect second compact disc player (digital audio disc), or tape deck (playback only).

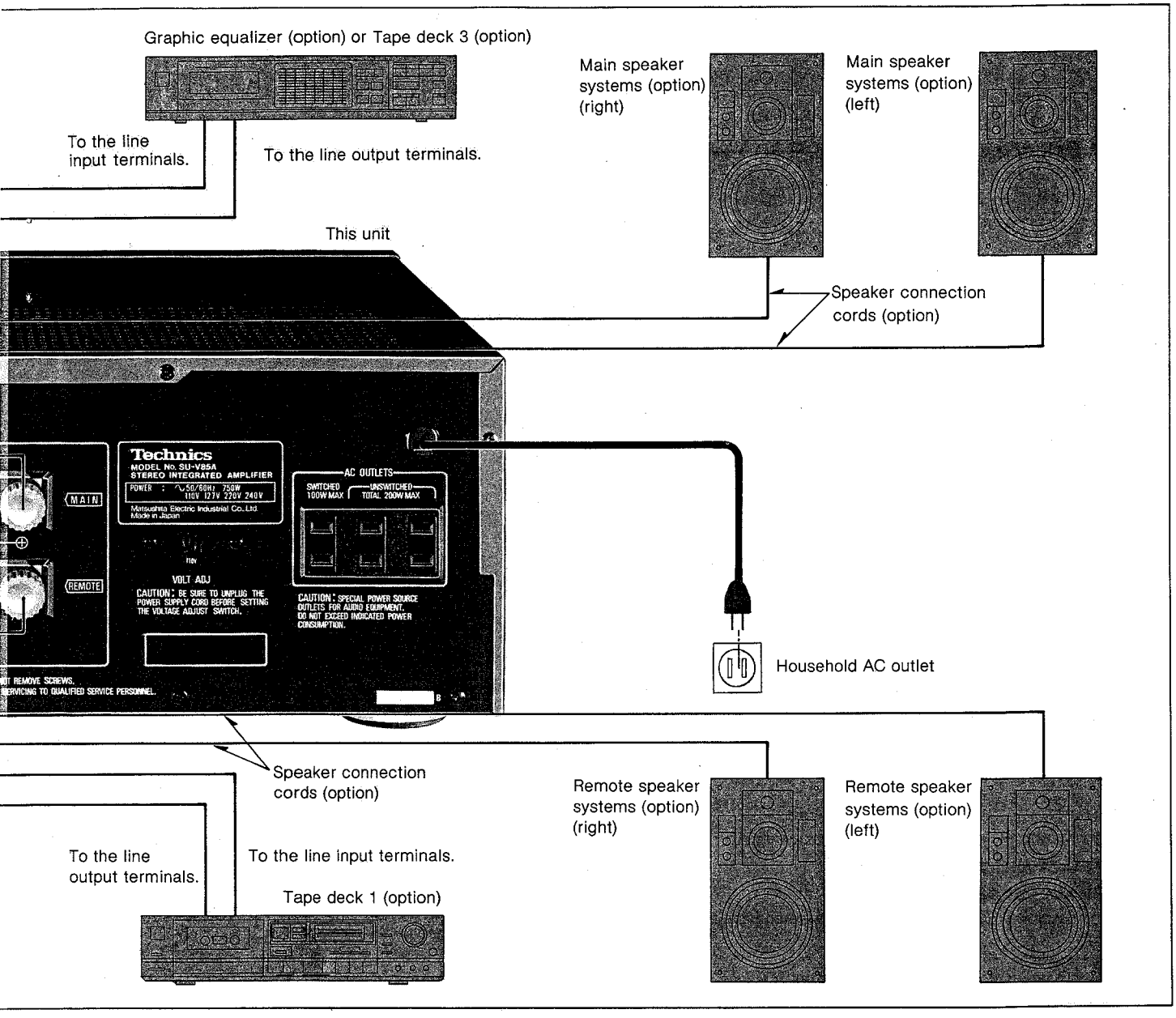
AC outlet

"UNSWITCHED" outlets:

Power to this outlet is always available, regardless of the unit's power switch setting. Audio equipment rated up to 200W (total for all outlets) can be connected here.

"SWITCHED" outlet:

Power to this outlet is controlled by power switch of this unit.
Audio equipment rated up to 100W can be connected here.



"SPEAKERS" terminals

■Load impedance

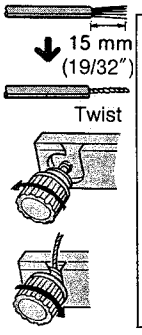
MAIN and REMOTE: 12~16Ω
MAIN or REMOTE: 6~16Ω

■Connection of speaker wires

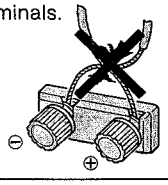
① Strip off the outer covering, and twist the center conductor.

② Turn 5 or 6 times.

③ Insert wire and tighten screw completely.
Pull wire to insure a proper connection.



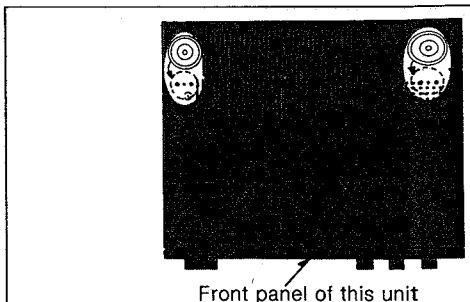
Note:
To prevent damage to circuitry, never short-circuit plus (+) and minus (−) speaker terminals.



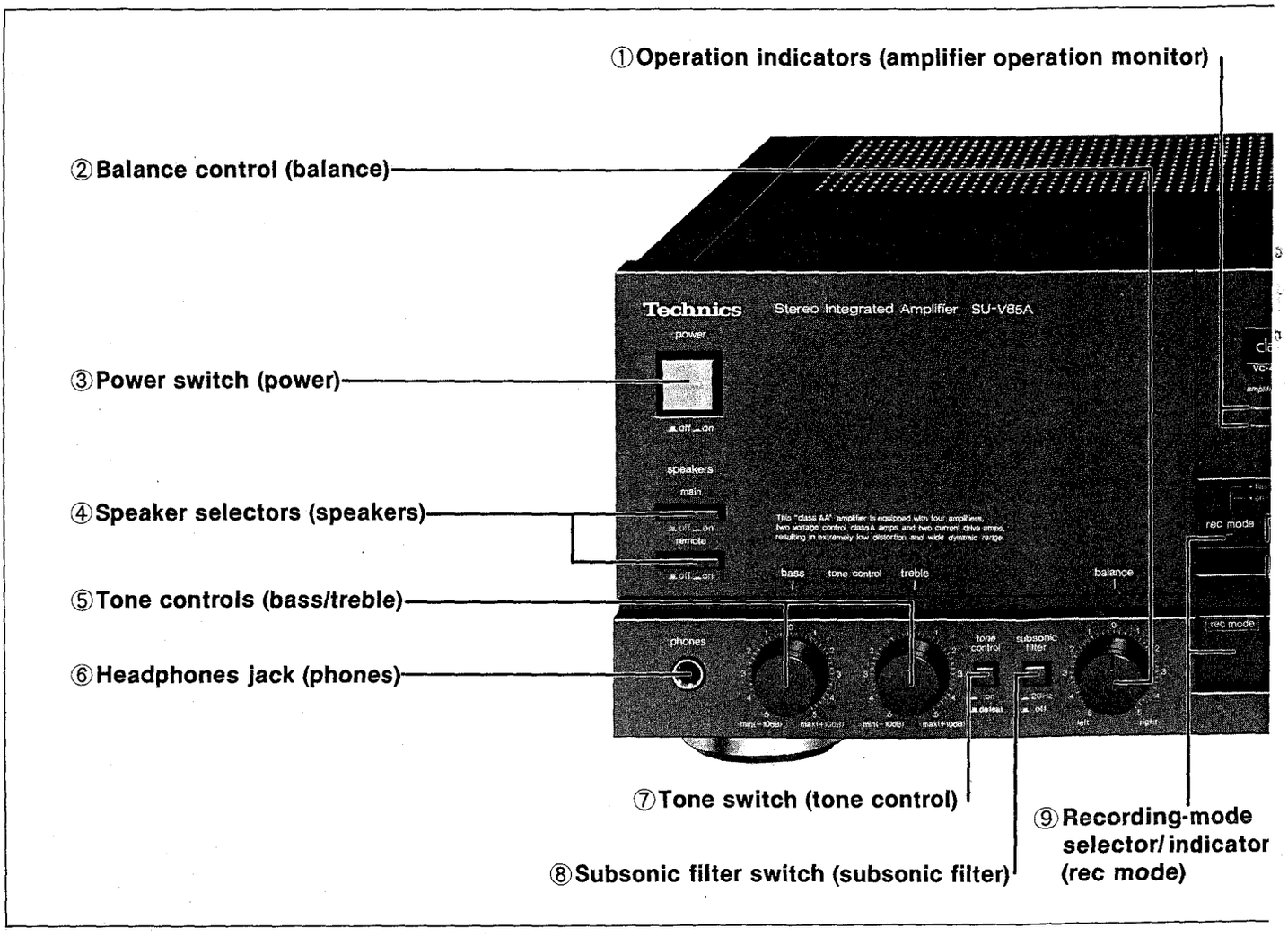
Placement Hints

To place this unit on a cassette deck or other equipment which has a smaller depth dimension, change the installation location of the feet.

Disconnect the unit from AC mains before attempting this procedure, and use only the screws provided with the feet.



Front Panel Controls and Functions



①Operation indicators (amplifier operation monitor)

This indicator illuminates to indicate the operating condition of this unit.

voltage control:

Illuminates when the power is switched "on".

current drive:

Illuminates about four seconds after the "voltage control" indicator illuminates, indicating that the unit is in the operation condition.

If there is an abnormal condition of the output signals to the speakers (such as a short-circuit of the speaker connection wires, etc.), the protection circuitry will function and this indicator will not illuminate.

②Balance control (balance)

③Power switch (power)

④Speaker selectors (speakers)

These selectors are used to turn the speaker systems on and off.

⑤Tone controls (bass/treble)

Adjust tone quality as desired. Low-range sound is adjusted with bass control ("bass"), and high-range sound with treble control ("treble").

⑥Headphones jack (phones)

Note:

Be sure to set the volume level to the minimum ("∞") position before connecting the headphones.

⑦Tone switch (tone control)

This switch is used to turn the tone control circuit (bass, treble) on or off.

⑧Subsonic filter switch (subsonic filter)

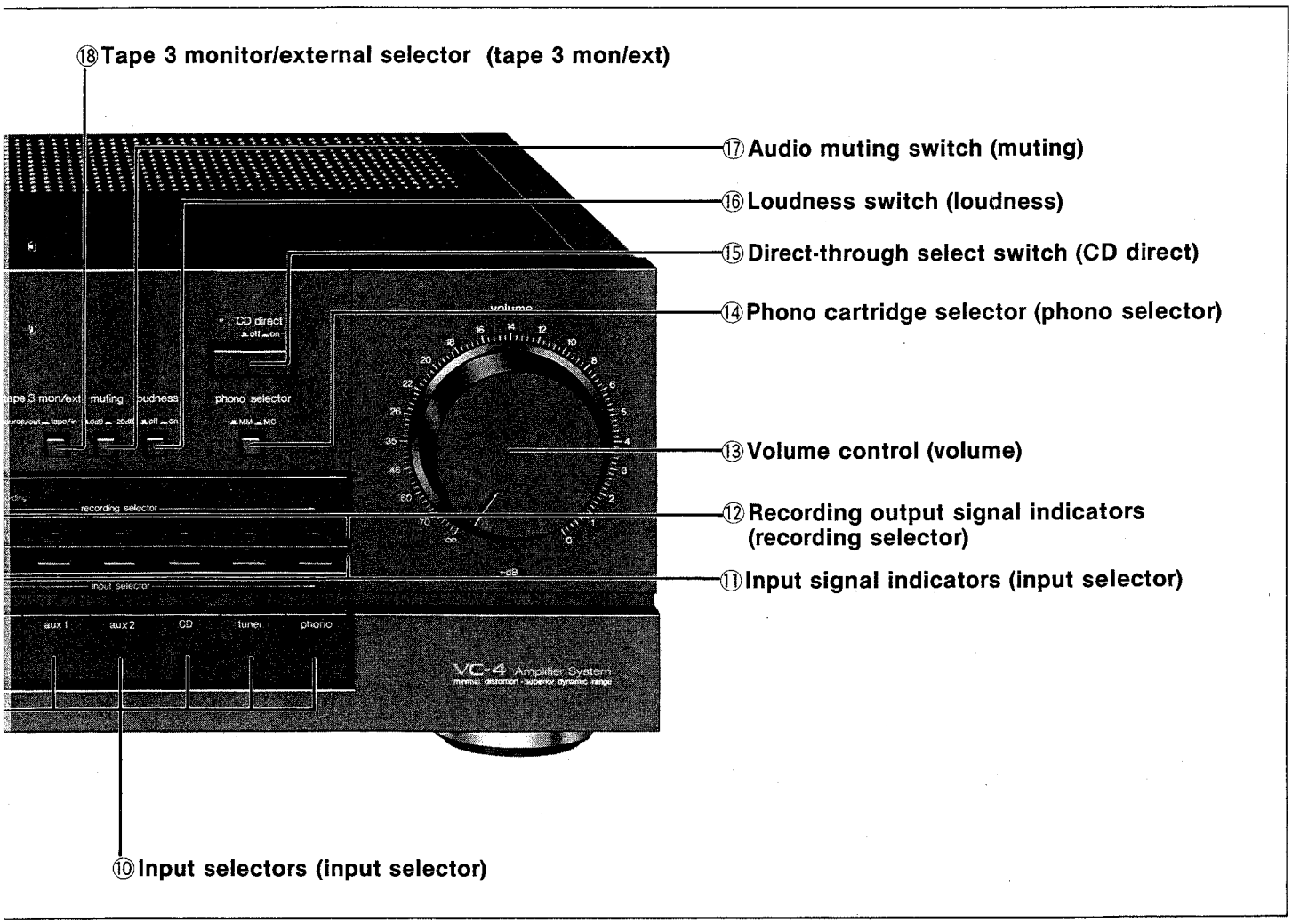
Press to "on" position to eliminate noise in the low-frequency range (caused by warped discs or motor "rumble").

⑨Recording-mode selector/indicator (rec mode)

This button can be used to select another program source to listen to while recording from one tape to another tape or while recording from some other program source.

When this button is pressed, the recording mode indicator flashes, and, when one of the selectors is pressed, this indicator illuminates.

If the indicator flashes, the flashing can be stopped by pressing this switch once again.



When the recording mode indicator is not illuminated:
If one of the source selectors is pressed, the program sources (that being played and that being recorded) are switched at the same time.
When the recording mode indicator is flashing:
If one of the selectors is pressed, only the recording sound source will be switched.
When the recording mode indicator is illuminated:
If one of the selectors is pressed, only the sound source to be listened to will be switched.

⑩Input selectors (input selector)
These selectors are used to select the sound source to be heard, such as a disc, radio broadcast, etc. The corresponding indicator illuminates during operation to indicate the selected sound source.

⑪Input signal indicators (input selector)

⑫Recording output signal indicators (recording selector)

⑬Volume control (volume)

⑭Phono cartridge selector (phono selector)
This selector should be set to the position which corresponds to the type of cartridge used on the turntable.

⑮Direct-through select switch (CD direct)
Even better tone quality of the very high quality signals from a compact disc can be obtained by routing these signals directly to the volume level adjustment, without passing them through an input selector.
When this switch is set to the "on" position, the sound source cannot be switched by using the input selectors.

⑯Loudness switch (loudness)
Set to the "on" position when listening to music at low volume. Auditory perception of sound in the low frequency range falls off at low volume, but when the switch is in this position, this deficiency is compensated for, so that the full impact of the musical performance can be enjoyed.

⑰Audio muting switch (muting)
Set to the "−20 dB" position when a disc is being changed or to temporarily reduce the volume level.
In addition, the volume level can be adjusted more precisely if this switch is set to the "−20 dB" position for listening at a low volume level.

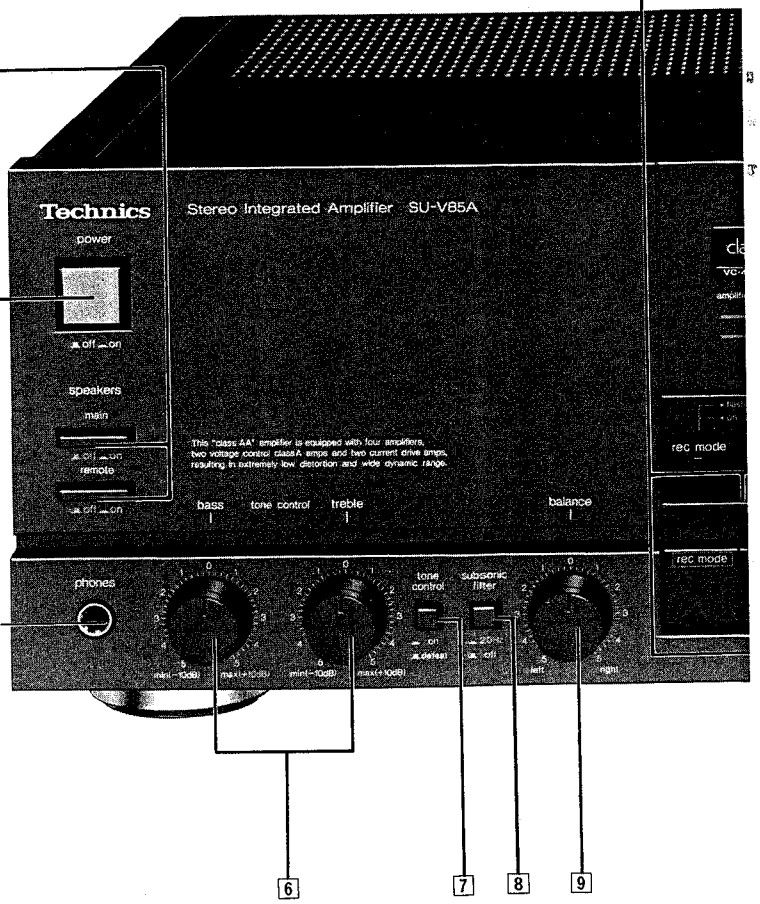
⑱Tape 3 monitor/external selector (tape 3 mon/ext)
This switch is used when a graphic equalizer or a third audio tape deck connected to the "TAPE 3/EXT" terminals on the rear panel of this unit is used.

Operation

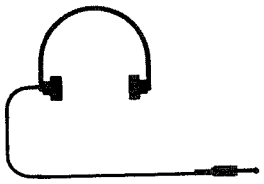
3 Select the sound source. (☞1)
(The input signal indicator will illuminate.)

2 Select speaker systems to be used.

1 Set the volume control to the "∞ → 70" position, and then turn "on" the power.



Headphones (option)



When listening through headphones

If sound from speakers is not wanted, set the speaker selectors to the "off" position.

1 Select the sound source and press the coresponding button.

tape 1/DA tape:
Press this button to playback or monitor the sound of a digital audio processor or other equipment connected to the "TAPE 1/DA TAPE" terminals on the rear panel.

tape 2:
Press this button to playback or monitor the sound from "TAPE 2".

aux 1:
Press this button to select the sound from an equipment connected to the "AUX 1" terminals (on the rear panel of this unit).

aux 2:
Press this button to select a video disc player or other equipment connected to the "AUX 2" terminals (on the rear panel of this unit).

CD:
Press this button to listen to a compact disc player.

tuner:
Press this button to listen to radio broadcasts.

phono:
Press this button to listen to phono discs.

2 Direct-through select switch (CD direct)

If this switch is set to the "on" position for play of a compact disc, an even higher level of tone quality can be enjoyed.

Note:
When this switch is set to the "on" position, the sound source cannot be switched by using the input selectors.

3 Phono cartridge selector (phono selector)

This selector should be set to the position which corresponds to the type of cartridge used on the turntable.

MM(▲→ ▮):
Set to this position when using a moving-magnet type cartridge or high-output moving-coil cartridge (1 mV or more).

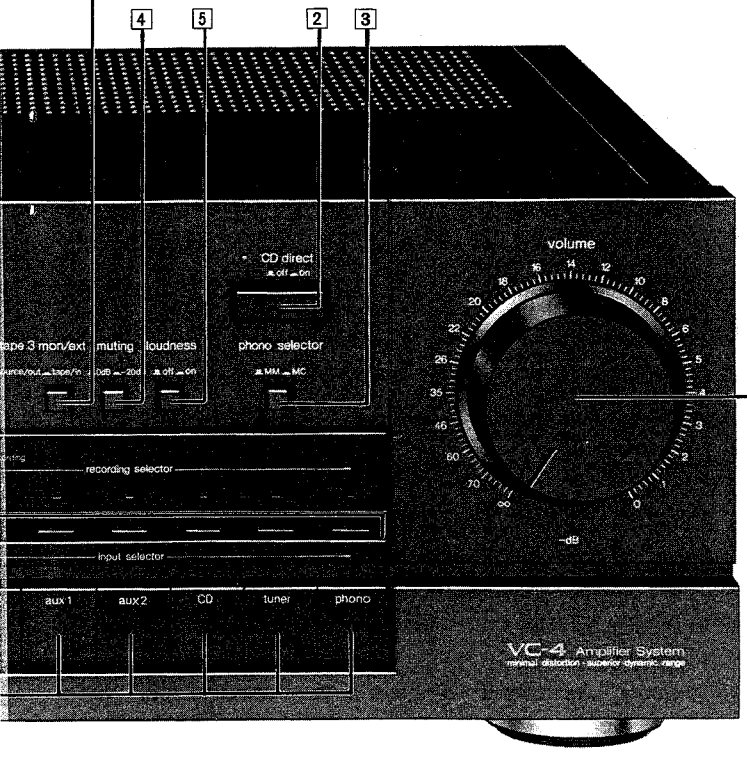
MC(▮→ ▲):
Set to this position when using a moving-coil type cartridge (less than 1 mV).

4 Audio muting switch (muting)

Set to the "−20 dB" position to temporarily reduce the volume level.

4 "source/out" (▂→ ▮)

Set to "tape/in" if a third audio tape deck or a graphic equalizer is used.



5 Start the play of the sound source.

(Refer to the operating instructions for the optional equipment used.)

6 Adjust the volume level.

Note:

Press [7] (▮→ ▂), and adjust [6] to get the desired tone quality.

[5] Loudness switch (loudness)

Set to the "on" position when listening to music at low volume. Auditory perception of sound in the low frequency range falls off at low volume, but when the switch is in this position, this deficiency is compensated for, so that the full impact of the musical performance can be enjoyed.

[6] Tone controls (bass/treble)

The bass control is for the low-frequency sound range, and the treble control is for the high-frequency sound range.

[7] Tone switch (tone control)

This switch is used to turn the tone control circuit (bass, treble) on or off.

defeat(▂→ ▮):

Set to this position to turn the bass/treble tone control circuit off. Regardless of the positions of the "tone controls", the characteristics will remain flat.

on(▮→ ▂):

Set to this position for adjustment of the tone quality with the tone controls.

[8] Subsonic filter switch (subsonic filter)

Press inward to the "20 Hz" position to eliminate ultra-low-frequency noise (to eliminate turntable motor "rumble", etc.).

[9] Balance control (balance)

This control is used to adjust left/right volume balance.

After use

After listening is finished, set the volume control to the "∞" position; the power switches of all equipment should then be switched "off".

Recording

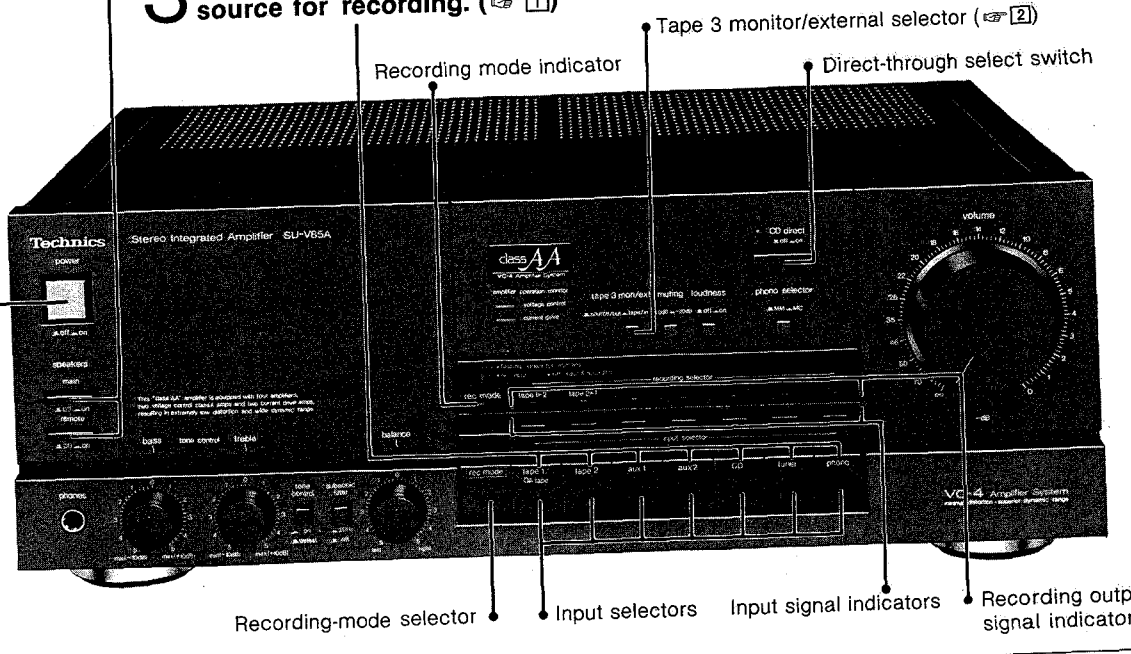
1 Set the volume control to the "∞ → 70" position, and then turn "on" the power.

2 Select speaker systems to be used.

3 Select the desired program source for recording. (☞ 1)

4 Start the play of the sound source.
(Refer to the operating instructions for the optional equipment used.)

5 Begin recording.
By using the controls on the tape deck, adjust the recording level. Then begin recording.
Refer to the tape deck's instructions for further details.



1 Select the desired program source for recording.

The signals output from the "TAPE 1/DA TAPE" and "TAPE 2" (REC OUT) terminals on the rear panel of this unit are the signals from the sound source indicated by the illuminated recording output signal indicator.
Therefore, the illuminated
- input indicator : indicates the sound source being heard
- recording output signal indicator : indicates the sound source being recorded.

Operation
The recording mode indicator will flash when the recording mode selector is pressed. While the indicator is flashing, make the selection (by pressing an input selector) of the sound source to be recorded.

2 To record to the audio tape deck connected to the "TAPE 3/EXT" terminals (on the rear panel of this unit)

The sound source selected by an input selector will be recorded by the tape deck.
The recording condition can be checked while the recording is being made by pressing the tape 3 monitor/ext switch, the sound going through the tape deck will be heard.

Note:
When listening to any source other than a compact disc, be sure to set the direct through select switch to the "off" position.

Edit-recording

- Press the "tape 1/DA tape" switch to record from tape deck 1 to tape deck 2.
  (The "tape 1 ▶ 2" recording indicator will illuminate.)
- Press the "tape 2" switch to record from tape deck 2 to tape deck 1.
  (The "tape 2 ▶ 1" recording indicator will illuminate.)
- Press the "tape 1/DA tape" switch to record from tape deck 1 to tape deck 3.
  Press the "tape 2" switch to record from tape deck 2 to tape deck 3.

Note:
Recordings cannot be made from tape deck 3 to tape deck 1 or tape deck 2.

To enjoy other source during recording or edit-recording

- To listen to the sound source being recorded, press the input selector corresponding to the sound source being recorded.
- To listen to a sound source other than the sound source being recorded, press the input selector corresponding to the sound source you want to hear.
  (The corresponding input signal indicator will illuminate.)
- To check the sound source being recorded, press the button ("tape 1/DA tape" or "tape 2") corresponding to the tape deck being used to make the recording.

Troubleshooting Guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.
If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized service centers (enclosed with this unit) to locate a convenient service center, or consult your Technics dealer for instructions.

Problem	Probable cause(s)	Suggested remedy
Problems noted at all times		
No sound is heard when the power is turned on.	The power cord plug is not completely inserted.	• Confirm that the power cord plug is connected completely.
	Connections are incomplete or incorrect to the speaker systems, etc.	• Check to be sure that all connection wires are correctly connected.
	The incorrect input selector has been pressed.	• Check to be sure that the correct selector is pressed.
	The speaker selectors are incorrectly set to the "off" position.	• Set to the "on" position.
	The direct through select switch is set to "on".	• Set it to "off".
When listening to stereo sound, the sound of the various musical instruments is not heard from its correct position.	The positive (+) and negative (−) connections of the speaker connection wires are reversed.	• Reconnect the speaker connection wires so that the positive and negative connections are correct.
When listening to stereo sound, the left and right sounds are reversed.	The left and right connections of the speaker connection wires are reversed.	• Check the speaker connection wires and connect them correctly if necessary.
	The left and right connections of the connection wires connected to other equipment are reversed.	• Check the connection wires to other equipment and connect them correctly if necessary.
Sound is not heard from the speaker system on one side.	The speaker connection wires are disconnected.	• Check and correct the connections of the speaker connection wires.
	The balance control of the amplifier is not set to the center position.	• Set the mark on the balance control to the center position.
Sound stops during a performance, or no sound is heard when the power is turned on.	The protection circuitry has functioned because the positive and negative speaker connection wires are "shorted" or speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.	• Switch off the power, and, after determining and correcting the cause, switch on the power once again.

Protection Circuitry

The protection circuitry of the amplifier may have operated if either of the following conditions is noticed:
• No sound is heard when the power is turned on.
• Sound stops during a performance.
The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlined below:
1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again.

Note:
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

Maintenance

To clean this unit, use a soft, dry cloth.
If the surfaces are extremely dirty, use a soft cloth, dipped into a soap-and-water solution or a weak detergent solution.
Wring the cloth well before wiping the unit.

Wipe once again with a soft, dry cloth.
Never use alcohol, paint thinner, benzine, nor a chemically treated cloth to clean this unit.
Such chemicals may damage the finish of your unit.

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(PA)(PE)

SQX54145
H0587R0

Printed in Japan